

Application Serial No. 10/7010,304
Amendment dated June 4, 2009
Reply to Office Action dated Feb. 4, 2009

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AMENDMENTS TO THE CLAIMS

The following listing of claims contains all claims that are, or ever were, in the present patent application. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1-5 (canceled).

6 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. providing a siloxane-based macrodiol aromatic polyurethane polymer;
- b. identifying a first solvent consisting essentially of tetrahydrofuran that is capable of dissolving a solid form of the polymer;
- c. identifying providing a second solvent that does not dissolve the polymer in solid form, but instead merely swells the solid polymer, said second solvent selected from the group consisting of acetone; chloroform; p-dioxane; methylene chloride; dimethyl sulfoxide; toluene; m-xylene; o-xylene, and methyl-ethyl-ketone;
- d. providing at least sufficient first solvent to said polymer as to dissolve dissolving the polymer in a sufficient quantity of the first solvent as to form a solution;
- e. adding a quantity of the second solvent to the solution, whereupon an entire volume of the solution and added second solvent increases in viscosity;
- f. continuing the adding of the second solvent until the viscosity of the solution and added second solvent increases to a point where the entire volume of solution and added second solvent has become a gel that is suitable for shape-forming;
- g. shape-forming the gel; and
- h. removing the first and second solvents from the gel.

7 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. providing an aromatic polyurethane polymer;

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- b. identifying a solvent that is capable of dissolving a solid form of the polymer;
- c. providing a liquid selected from the group consisting of acetone; chloroform; p-dioxane; methylene chloride; dimethyl sulfoxide; toluene, m-xylene; o-xylene, and methyl-ethyl-ketone;
- c [f]. providing at least sufficient solvent consisting essentially of THF to said polymer as to dissolve the polymer in the solvent to form a solution;
- d [f]. adding a quantity of the liquid to the solution, whereupon the entire volume of the solution and added liquid begins to thicken;
- e [f]. continuing the adding of the liquid until a viscosity of the solution increases to a point where the entire volume of solution and added liquid has transformed to a gel that is suitable for shape-forming;
- f [g]. shape-forming the gel; and
- g [h]. removing the solvent and liquid from the gel.

8 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. providing a siloxane polyurethane polymer;
- b. providing a liquid swelling agent selected from the group consisting of acetone; chloroform; p-dioxane; methylene chloride; dimethyl sulfoxide; toluene, m-xylene; o-xylene, and methyl-ethyl-ketone;
- c. dissolving the polymer in a solvent consisting essentially of tetrahydrofuran to form a solution;
- d. adding a quantity of the liquid swelling agent to the solution, whereupon the entire volume of the solution and added liquid swelling agent begins to thicken in viscosity;
- e. continuing the adding of the liquid swelling agent until the viscosity of the solution and added liquid swelling agent increases to a point where the entire volume of solution and added liquid swelling agent has transformed to a gel;
- f. shape-forming the gel; and
- g. removing the solvent and liquid swelling agent from the gel.

9 (canceled).

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10 (currently amended). The process of any of claims 6, 7, or 8, wherein the biologically active agent comprises at least one member selected from the group consisting of: physiologically acceptable drugs, surfactants, ceramics, glycosaminoglycans, proteins and cells.

11-13 (canceled).

14 (canceled).

15-17 (canceled).

18-27 (canceled).

28 (currently amended). A process for creating a composite body comprising a porous polymeric body, the process comprising the steps of:

- a. dissolving a selected polymer in a solvent to form a solution;
- b. adding a suitable liquid to the solution that causes the entire volume of the solvent/polymer solution and added liquid to thicken into a gel;
- c. placing the gel in contact with at least one other material; and
- d. removing the liquid and solvent, thereby leaving a porous polymer and the at least one other material, wherein said porous polymer and said at least one other material are mechanically bound to each other, wherein the selected polymer comprises a polyurethane, and further wherein the solvent comprises consists essentially of tetrahydrofuran, and the liquid comprises at least one liquid selected from the group consisting of p-dioxane, dimethyl sulfoxide and o-xylene.

29-32 (canceled).

33 (previously presented). The process of claim 28, wherein the other material is biodegradable.

34 (previously presented). The process of claim 28, wherein the other material provides reinforcement to the porous polymer.

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35 (previously presented). The process of claim 28, wherein the other material comprises at least one form selected from the group consisting of reinforcing threads, reinforcing rings, sutures and tacks.

36 (previously presented). The process of claim 28, wherein the porous polymeric body comprises a prosthesis, and the other material aids in attaching the prosthesis to host tissue.

37 (previously presented). The process of claim 28, wherein the other material is a biologically active agent.

38 (previously presented). The process of claim 37, wherein the biologically active agent is selected from one or more of the following: physiologically acceptable drugs, surfactants, ceramics, hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, glycosaminoglycans, proteins, hormones, antigens, viruses, cells or cellular components.

39 (previously presented). The process of claim 28, wherein the composite body is a component of a larger body.

40 (previously presented). The process of claim 7, wherein forming of the polymer gel comprises at least one technique selected from the group consisting of (i) spreading the gel onto an open smooth or textured surface, and (ii) injecting the gel into a mold.

41 (previously presented). The process of claim 8, wherein forming of the polymer gel comprises at least one technique selected from the group consisting of (i) spreading or injecting the gel over a three-dimensional object, and removing the three-dimensional object after removing the first and second solvent from the gel; and (ii) forcing a three-dimensional object into a volume of the gel, and removing the three-dimensional object after removing the first and second solvent from the gel.

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42 (previously presented). The process of claim 8, wherein a biologically active agent is provided to the porous polymer by at least one technique selected from the group consisting of (i) mixing with the polymer and first solvent prior to addition of the second solvent, (ii) mixing with the second solvent prior to addition to the first solvent/polymer solution, and (iii) mixing with the gel prior to removal of the first and second solvents.

43 (previously presented). The process of claim 8, wherein a biologically active agent is incorporated within the pores of the polymeric body after removal of the first and second solvent.

44 (currently amended). The process of any of claims 6, 7, or 8, wherein the biologically active agent comprises at least one member selected from the group consisting of: hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, hormones, antigens, viruses and cellular components.

45 (currently amended). The process of claim 8, wherein the gel is placed in contact with a separate body, after which the ~~first-liquid~~ swelling agent and ~~second-solvent~~ are removed, leaving the porous polymer mechanically bound to the body.

46 (currently amended). The process of claim 8, wherein said siloxane polyurethane polymer comprises a siloxane-based macrodioil aromatic polyurethane.

47 (canceled).

48 (currently amended). The process of claim 46, wherein the ~~first solvent~~ comprises tetrahydrofuran, and the ~~second solvent-liquid swelling agent~~ comprises at least one ~~solvent~~ substance selected from the group comprising p-dioxane, dimethyl sulfoxide and o-xylene.

49-51 (canceled).

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52 (previously presented). The process of claim 6, wherein neither of said first solvent or said second solvent comprises a substance selected from the group consisting of water and ethanol.

53 (previously presented). The process of claim 28, wherein said polyurethane comprises a siloxane polyurethane.

54 (previously presented). The process of claim 28, wherein said polyurethane comprises a siloxane-based macrodiol aromatic polyurethane.

55 (previously presented). A process for creating a porous polymeric body, comprising the steps of:

- a. providing a polyurethane polymer;
- b. providing a liquid swelling agent selected from the group consisting of acetone; chloroform; p-dioxane; methylene chloride; dimethyl sulfoxide; toluene, m-xylene; o-xylene, and methyl-ethyl-ketone;
- c. dissolving the polymer in a solvent comprising tetrahydrofuran to form a solution;
- d. adding a quantity of the liquid swelling agent to the solution, whereupon the entire volume of the solution and added liquid swelling agent begins to thicken in viscosity;
- e. continuing the adding of the liquid swelling agent until the viscosity of the solution and added liquid swelling agent increases to a point where the entire volume of solution and added liquid swelling agent has transformed to a gel; and
- f. removing the solvent and liquid swelling agent from the gel.

56 (previously presented). The process of claim 55, wherein said polyurethane polymer comprises a carbonate polyurethane polymer.

57 (previously presented). The process of claim 56, wherein the liquid swelling agent comprises at least one substance selected from the group consisting of p-dioxane, dimethyl sulfoxide and o-xylene.